

# CD-DocDB # 5544

## Recommendations

### for

## Service-Now

## Availability Reporting

## Enhancements

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#### Abstract:

This document discusses the limitations of the current availability measurement configuration of the Fermilab instance of Service-Now and provides a recommendation as to a flexible mechanism that would address the currently known limitations and support future availability measurement configurations.

## Document Version History

Version	Date	Author	Comments
V1.0	14-Apr-2015	Keith Chadwick	Initial Version

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## Executive Summary

The current availability management configuration based on service offering categories in the Fermilab instance of Service-Now is not sufficient to meet the foreseeable near term needs of the Service owners, Service Management, and Service Clients.

In order to address this issue, I recommend that a new table be added to Service-Now dedicated to availability.

A group containing the Availability Manager, the Service Level Manager, the Assent and Configuration Manager, and at least one member of the Service-Now support team should be formed to perform a detailed evaluation and feasibility study of the above recommendation.

## Introduction

At the present time, the Fermilab Service-Now instance is configured to use Service Offering Categories as the basis of availability calculation through the use of outage records. This is a good initial configuration, and has allowed the Fermilab ITSM organization to gain experience with Service-Now availability calculations and outage record processing.

## Current Service-Now Configuration and Issues / Limitations

Unfortunately, while the Fermilab Service-Now availability management configuration using service offering categories was easy to implement, it does not “make sense”<sup>1</sup> for some of the currently “ISO20K” onboarded services (refer to Appendix 1 for the complete list).

Service Offering “Make Sense” Evaluation	Example Service Offering Categories	Count
“Yes”	Active Directory Services, Email, Chat, Calendar, FCC[2,3] Data Centers, etc.	57
“Yes?”	Call-in support, Mobile Device Support, NAS, Network Storage Enhanced, SAN, Scan Documents to a Central Storage Area, etc.	12
“No?”	Apache HTTPD Website Hosting, Consulting, Electronic Logbook, MySQL, Oracle, PostgreSQL, etc.	16
“No”	None at the present time.	0
<b>Total</b>		<b>85</b>

Key for the Above Table:

- Yes = Outage records make sense for the service offering category.
- Yes? = Outage records likely make sense for the service offering category.
- No? = Outage records likely do not make sense for the service offering category.
- No = Outage records do not make sense for the service offering category.

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<sup>1</sup> Make Sense = Supports the collection of availability metrics that provide useful information to the consumers of the services, the service owners, and ITSM management.

## Potential Solutions

In order to deliver effective availability measurements for the set of service offering categories that have been evaluated as Makes Sense = ["Yes?", "No?", "No"], the current Service-Now configuration must be expanded/extended to accommodate additional items.

There are (at least) two potential mechanisms to accomplish this:

1. Add a new availability field in the CMDB for CIs – The advantage to this mechanism is that this could be implemented “transparently”. The drawback to this mechanism is that not all CIs have an identical table structure (examples – Application instances vs. Printer instances vs. Service Offering Categories).
2. Add a new table in Service-Now dedicated to availability – The advantage to this mechanism is that no changes to the CI table structures are needed, and the availability table could be customized to meet the current and future availability and outage record handling needs. This mechanism can also be implemented transparently, since the existing service offering information could be copied into the new table. The drawback to this mechanism is that it would be a Fermilab specific customization of the Service-Now implementation.

After a fair bit of thought about the above options, I am recommending that we select the “Add a new table” option. My initial thoughts about the data structure of the table are shown below:

Table - Proposed Availability Management Table Data Structure	
Field Name	Field Description
<i>am_item_name</i>	The name of the item subject to availability monitoring.
<i>am_item_type</i>	The type of the item subject to availability monitoring. Valid types could include <i>service_area</i> , <i>service_category</i> , <i>service_instance</i> , <i>ci_name</i> , etc.
<i>am_target_pointer</i>	A pointer to the location where the availability target value corresponding to the <i>am_item_name</i> is stored. If this location can be easily determined from a combination of the <i>am_item_name</i> and the <i>am_item_type</i> , then this field may not be necessary.
<i>am_rollup_target</i>	The name of the (optional) availability rollup

An example of how this data table could be populated is shown in Appendix 2 below.

## Summary and Recommendations

The current availability management configuration based on service offering categories in the Fermilab instance of Service-Now is not sufficient to meet the foreseeable near term needs of the Service owners, Service Management, and Service Clients.

In order to address this issue, I recommend that a new table be added to Service-Now dedicated to availability.

A group containing the Availability Manager, the Service Level Manager, the Assent and Configuration Manager, and at least one member of the Service-Now support team should be formed to perform a detailed evaluation and feasibility study of the above recommendation.

## Appendix 1 – Outage Records “Makes Sense” Table

<b>Service Offering Category Name</b>	<b>ISO20K Onboarded</b>	<b>Outage Records Make Sense</b>
Active Directory (FERMI.WIN.FNAL.GOV Domain)	Yes	Yes
Apache HTTPD Website Hosting: Tier 1	Yes	No?
Apache HTTPD Website Hosting: Tier 2	Yes	No?
Apache HTTPD Website Hosting: Tier 4	Yes	No?
Calendar	Yes	Yes
Call-in support	Yes	Yes?
Centrally Managed Email Submission Form for Fermi Managed Domains	Yes	Yes
Chat	Yes	Yes
Consultation on device ordering	Yes	Yes
Consulting	Yes	No?
Consumable Management	Yes	Yes
Control Room System Management	Yes	Yes
CVS	Yes	Yes
dCache Disk Cache Storage	Yes	Yes
Desktop Deployment	Yes	Yes
Electronic Logbook	Yes	No?
Electronic Logbook during Data Taking	Yes	No?
EMail	Yes	Yes
Enhanced MySQL	Yes	No?
Enhanced Oracle	Yes	No?
Enhanced PostgreSQL	Yes	No?
Enhanced SQL Server	Yes	No?
Enhanced Virtual Hosting	Yes	Yes
Enstore Tape Storage	Yes	Yes
Experiment Online System Management	Yes	Yes
Feynman Computing Center (FCC) 2	Yes	Yes
Feynman Computing Center (FCC) 3	Yes	Yes
General Video Conferencing	Yes	Yes
Git	Yes	Yes
Grid Computing Center (GCC) Computer Room A	Yes	Yes
Grid Computing Center (GCC) Computer Room B	Yes	Yes
Grid Computing Center (GCC) Computer Room C	Yes	Yes
Hosting	Yes	Yes
IMAC	Yes	Yes
IMAC Enhanced	Yes	Yes
Kerberos Certificate Authority (KCA)	Yes	Yes
Lattice Computing Center (LCC)	Yes	Yes
LDAP Authentication (SERVICES.FNAL.GOV Domain)	Yes	Yes
Limited SLF Workstation and Scientific Test stand	Yes	Yes
Loaner Laptops	Yes	Yes
Mail Lists	Yes	Yes
Major Application Support	Yes	Yes
Managed Scientific Workstation	Yes	Yes
Microsoft IIS Website Hosting: Tier 1	Yes	No?



MIT Kerberos Realm (FNAL.GOV)	Yes	Yes
Mobile Device Support	Yes	Yes?
MySQL	Yes	No?
NAS	Yes	Yes?
Network Enhanced	Yes	Yes
Network Facilities	Yes	Yes
Network Services	Yes	Yes
Network Storage Enhanced	Yes	Yes?
Oracle	Yes	No?
OS and Network User Area Backups	Yes	Yes
OS and Network User Area Backups Enhanced	Yes	Yes
Personal Computer Data Backup Service	Yes	Yes
PostgreSQL	Yes	No?
Print Services	Yes	Yes
Printer Support	Yes	No?
Redmine	Yes	Yes
SAN	Yes	Yes?
Scan Documents to a Central Storage Area	Yes	Yes?
Scientific Linux and Linux Engineering	Yes	Yes
Secure Certificate (SSL) for Fermi Owned Domains	Yes	Yes
Secure Certificate (SSL) for fnal.gov	Yes	Yes
Server Repair	Yes	Yes
Service Desk email support	Yes	Yes
Service Desk Enhanced	Yes	Yes
ServiceNow Self Service	Yes	Yes
Shift Scheduler	Yes	Yes?
Speakers Bureau	Yes	Yes?
SQL Server	Yes	No?
SVN	Yes	Yes
System Administration and Engineering Consulting	Yes	Yes
Teamcenter	Yes	Yes
Technology Store	Yes	Yes
Training on Managed Print Devices	Yes	Yes?
Video Conferencing Consulting	Yes	Yes?
Video Conferencing Enhanced	Yes	Yes?
Video Conferencing Training	Yes	Yes
Virtual Machine Hosting	Yes	Yes
Walk-in support	Yes	Yes
Wide Area Network Infrastructure	Yes	Yes
Wilson Hall 8 Fiber Central (WH8FC)	Yes	Yes

Key:

Yes = Outage records make sense for the service offering category

Yes? = Outage records likely make sense for the service offering category

No? = Outage records likely do not make sense for the service offering category

No = Outage records do not make sense for the service offering category

## Appendix 2 – Example Rollup Configuration

<b><i>am_item_name</i></b>	<b><i>am_item_type</i></b>	<b><i>am_target_pointer</i></b>	<b><i>am_rollup_target</i></b>
Data Centers	rollup	99.90%	none
Feynman Computing Center (FCC) 2	service_offering	99.67%	Data Centers
Feynman Computing Center (FCC) 3	service_offering	99.67%	Data Centers
Grid Computing Center (GCC) Computer Room A	service_offering	99.50%	Data Centers
Grid Computing Center (GCC) Computer Room B	service_offering	99.50%	Data Centers
Grid Computing Center (GCC) Computer Room C	service_offering	99.50%	Data Centers
Lattice Computing Center (LCC)	service_offering	98.50%	Data Centers
Wilson Hall 8 Fiber Central (WH8FC)	service_offering	99.67%	Data Centers

Please note that the current availability target is listed in the ***am\_target\_pointer*** column.